

# Extended Hydrologic Outlook

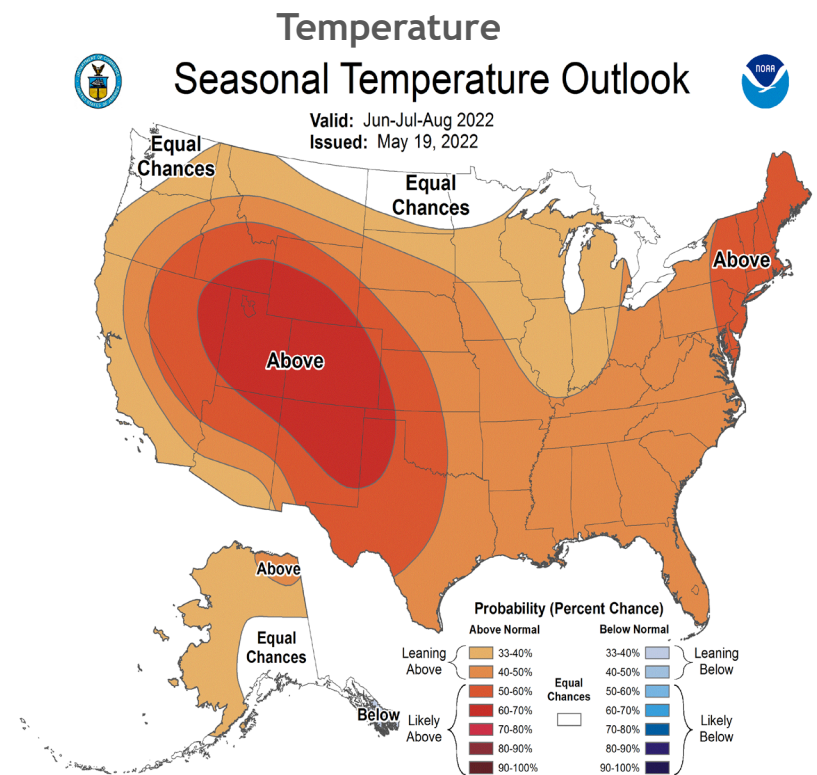
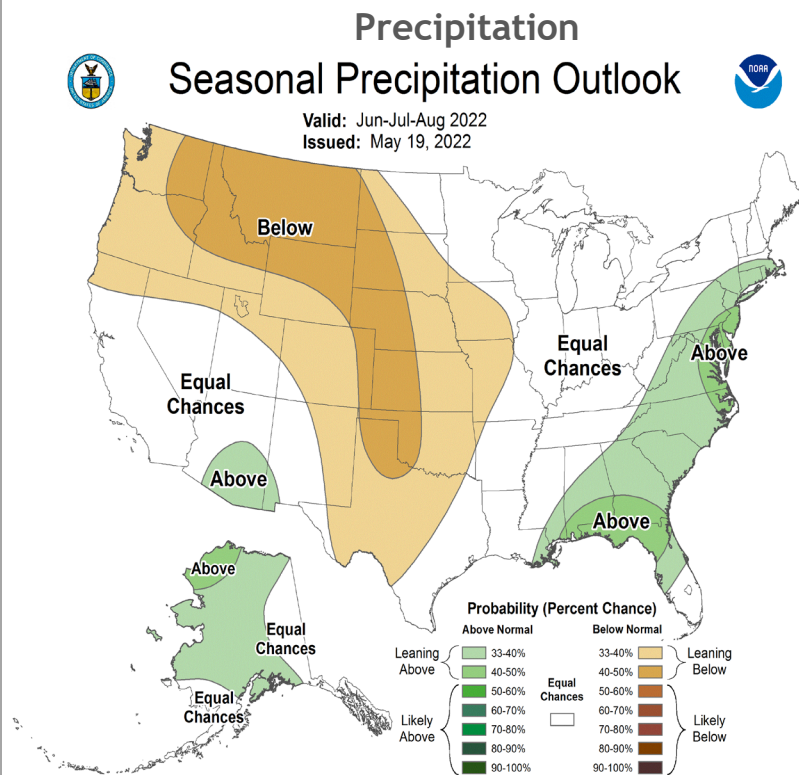
June 7, 2022

- The Climate Prediction Center (CPC) is forecasting equal chances of above normal, normal and below normal rainfall for June through August.
- La Niña is present and the odds for La Niña decrease into the late summer (58% chance in August-October 2022) before slightly increasing through the fall and early winter 2022 (61% chance).
- Atlantic Multidecadal Oscillation (AMO) is currently in the warm phase:
  - Average annual inflow to Lake Okeechobee is nearly 50% greater during the warm phase compared to the cold phase

# U. S. Seasonal Outlooks

June - August 2022

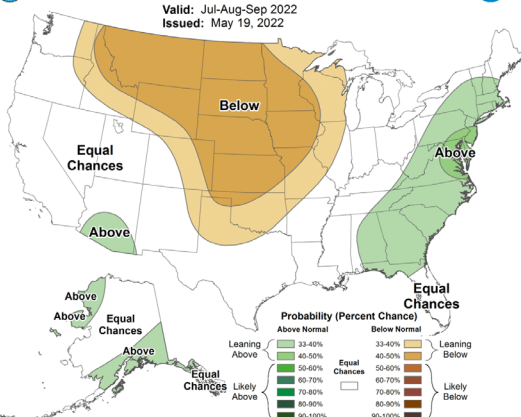
The seasonal outlooks combine the effects of long-term trends, soil moisture, and, when appropriate, ENSO.





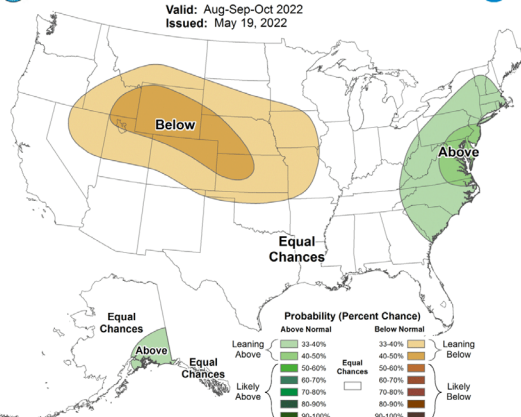
## Seasonal Precipitation Outlook

Valid: Jul-Aug-Sep 2022  
Issued: May 19, 2022



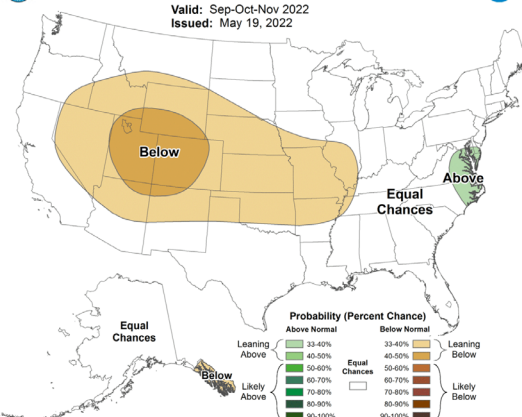
## Seasonal Precipitation Outlook

Valid: Aug-Sep-Oct 2022  
Issued: May 19, 2022



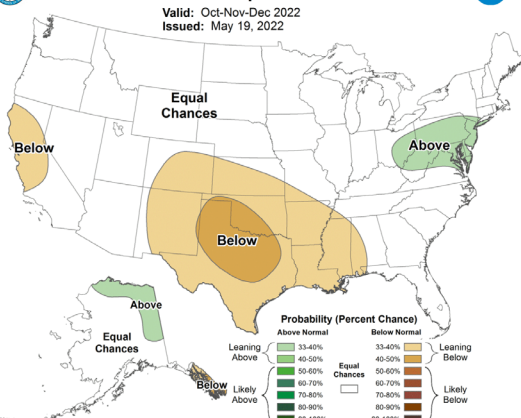
## Seasonal Precipitation Outlook

Valid: Sep-Oct-Nov 2022  
Issued: May 19, 2022



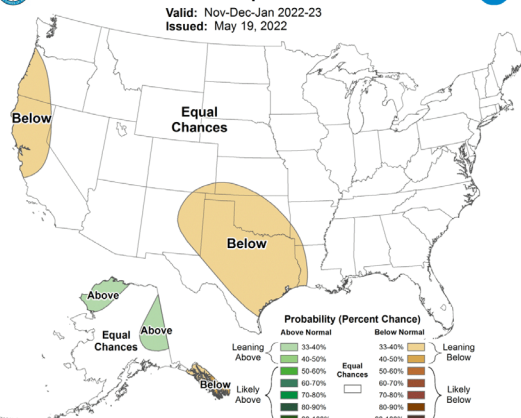
## Seasonal Precipitation Outlook

Valid: Oct-Nov-Dec 2022  
Issued: May 19, 2022



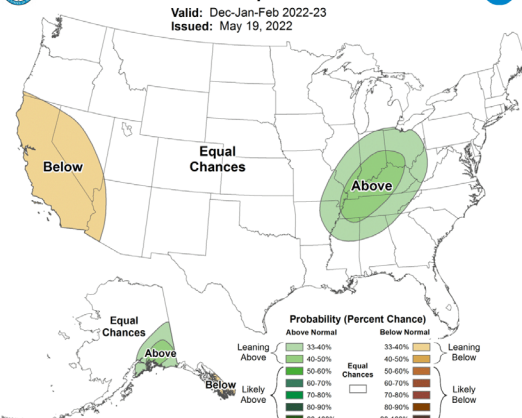
## Seasonal Precipitation Outlook

Valid: Nov-Dec-Jan 2022-23  
Issued: May 19, 2022



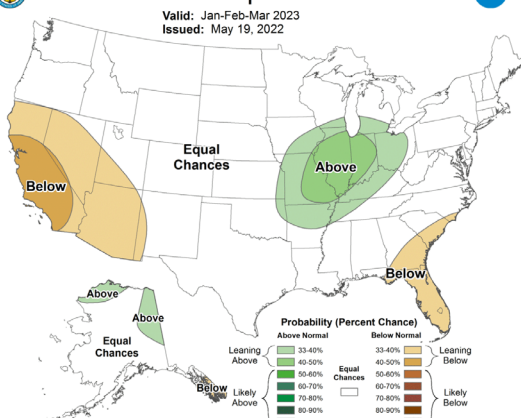
## Seasonal Precipitation Outlook

Valid: Dec-Jan-Feb 2022-23  
Issued: May 19, 2022



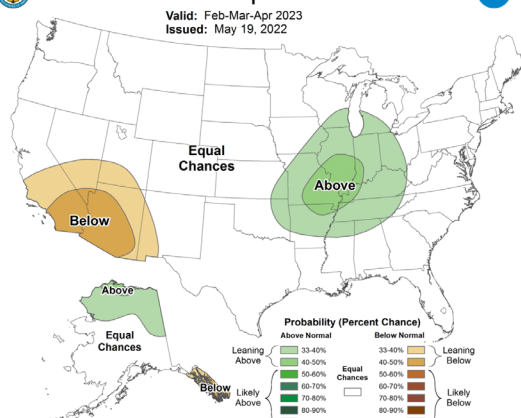
## Seasonal Precipitation Outlook

Valid: Jan-Feb-Mar 2023  
Issued: May 19, 2022



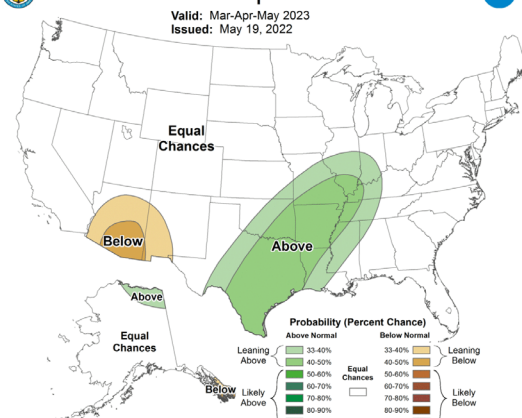
## Seasonal Precipitation Outlook

Valid: Feb-Mar-Apr 2023  
Issued: May 19, 2022



## Seasonal Precipitation Outlook

Valid: Mar-Apr-May 2023  
Issued: May 19, 2022



# Teleconnections to South Florida

Climate anomalies being related to each other at large distances:

## El Niño Southern Oscillation (ENSO)

El Niño increases the chances of a wetter-than-normal dry season and decreased tropical activity, La Niña increases the chances of a drier-than-normal dry season and increased tropical activity (both have most influence in south Florida from November through March)

## Pacific Decadal Oscillation (PDO)

Increases variations in south Florida dry season rainfall, positive leads to more El Niño events, negative leads to more La Niña events

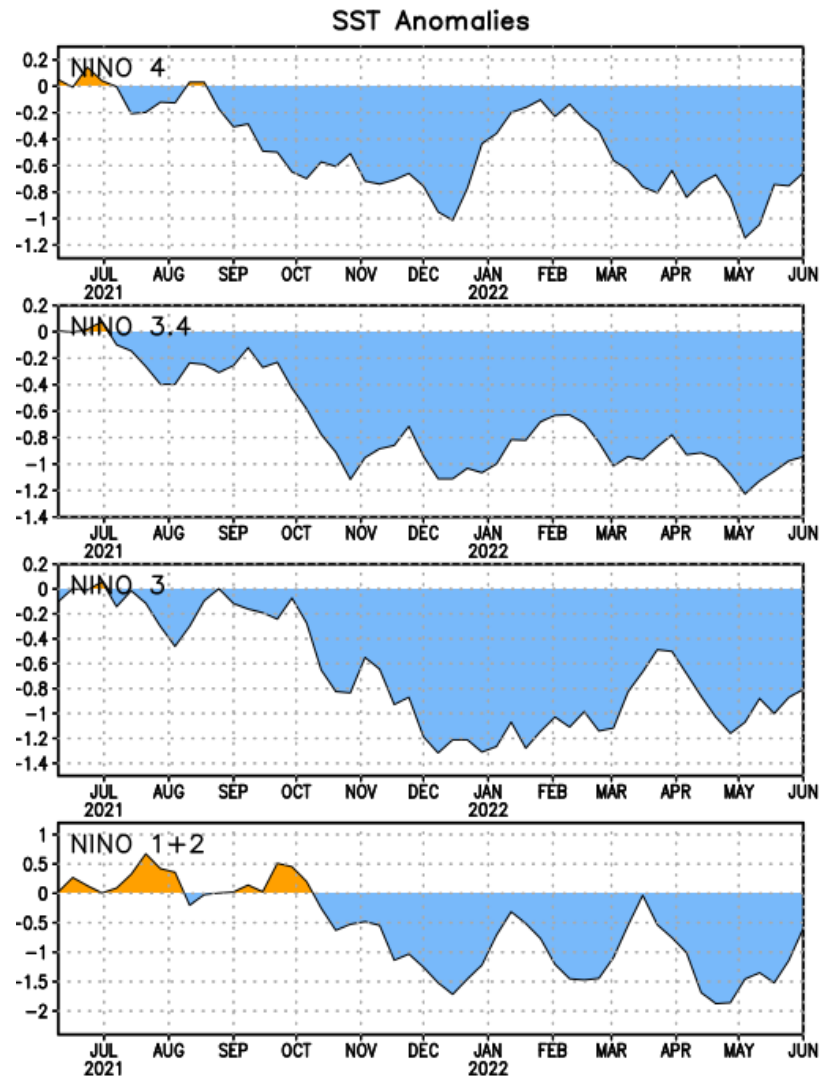
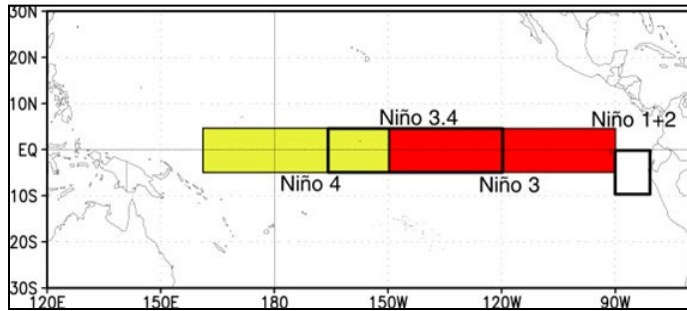
## Atlantic Multidecadal Oscillation (AMO)

Average annual inflow to Lake Okeechobee is nearly 50% greater during the warm phase compared to the cold phase of the AMO, easterly flow toward south Florida affected by phase

# Niño Region SST Departures (°C) Recent Evolution

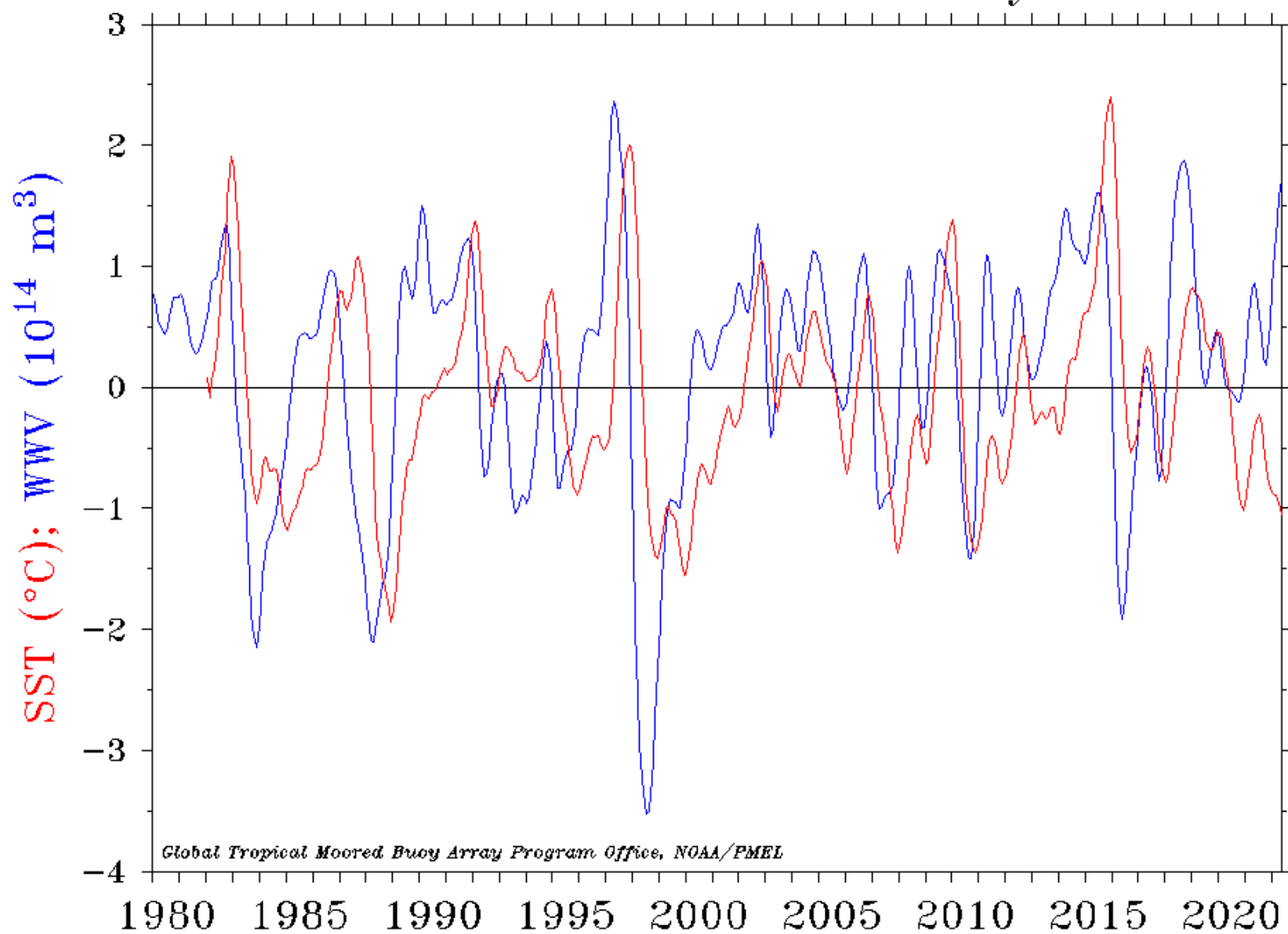
The latest weekly SST departures are:

Niño 4	-0.7°C
Niño 3.4	-0.9°C
Niño 3	-0.8°C
Niño 1+2	-0.6°C

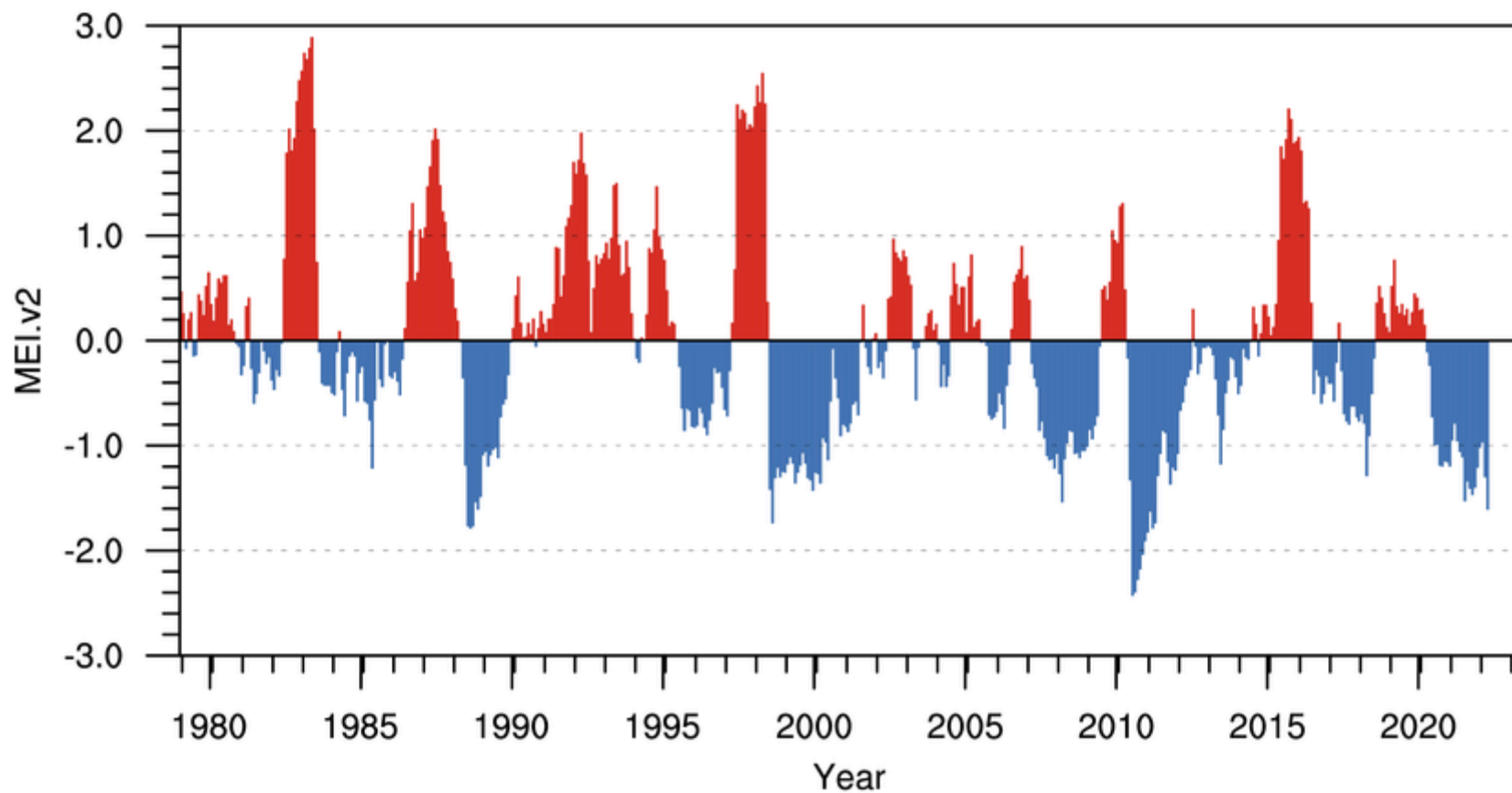


This weekly sea surface temperature data is based on OISSTv2.1 (Huang et al., 2021).

# Warm Water Volume (5°N–5°S, 120°E–80°W) and NINO 3.4 SST Anomaly



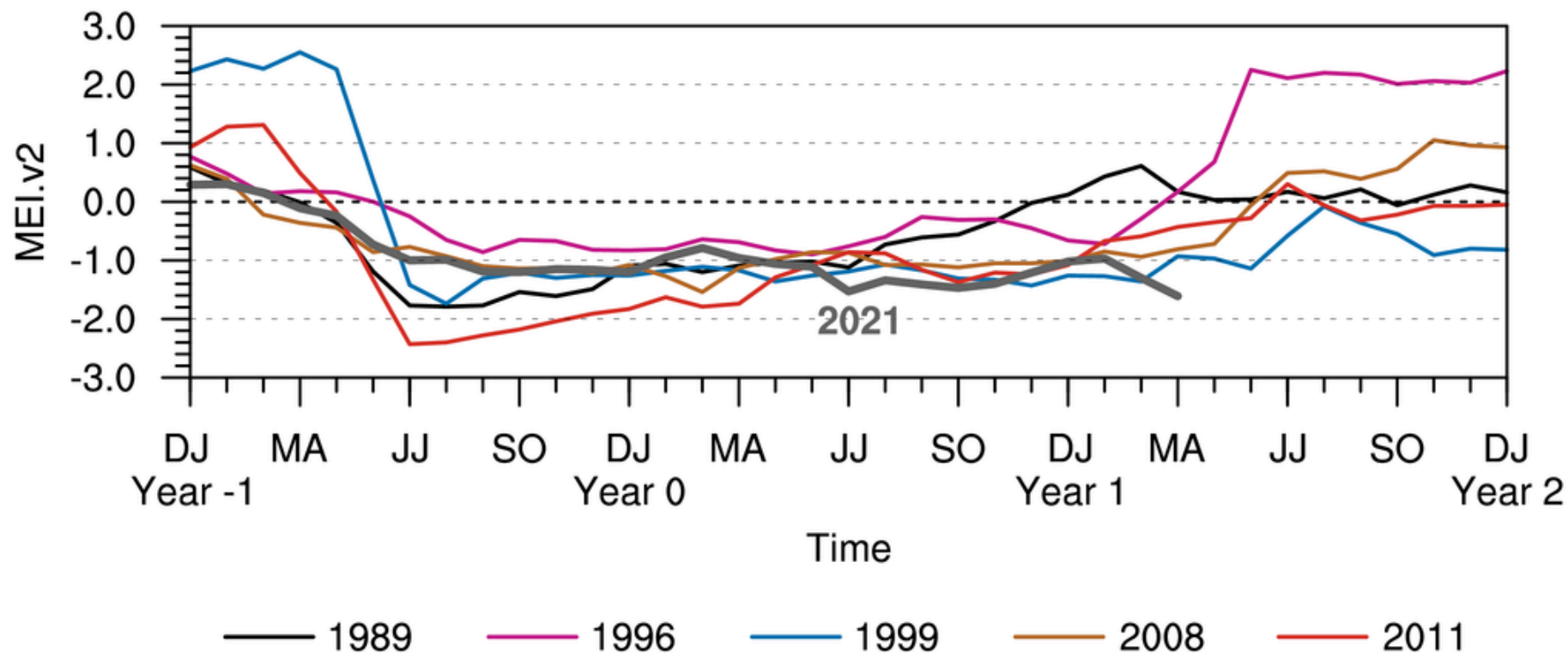
## Multivariate ENSO Index Version 2



Prepared by: NOAA Physical Sciences Laboratory



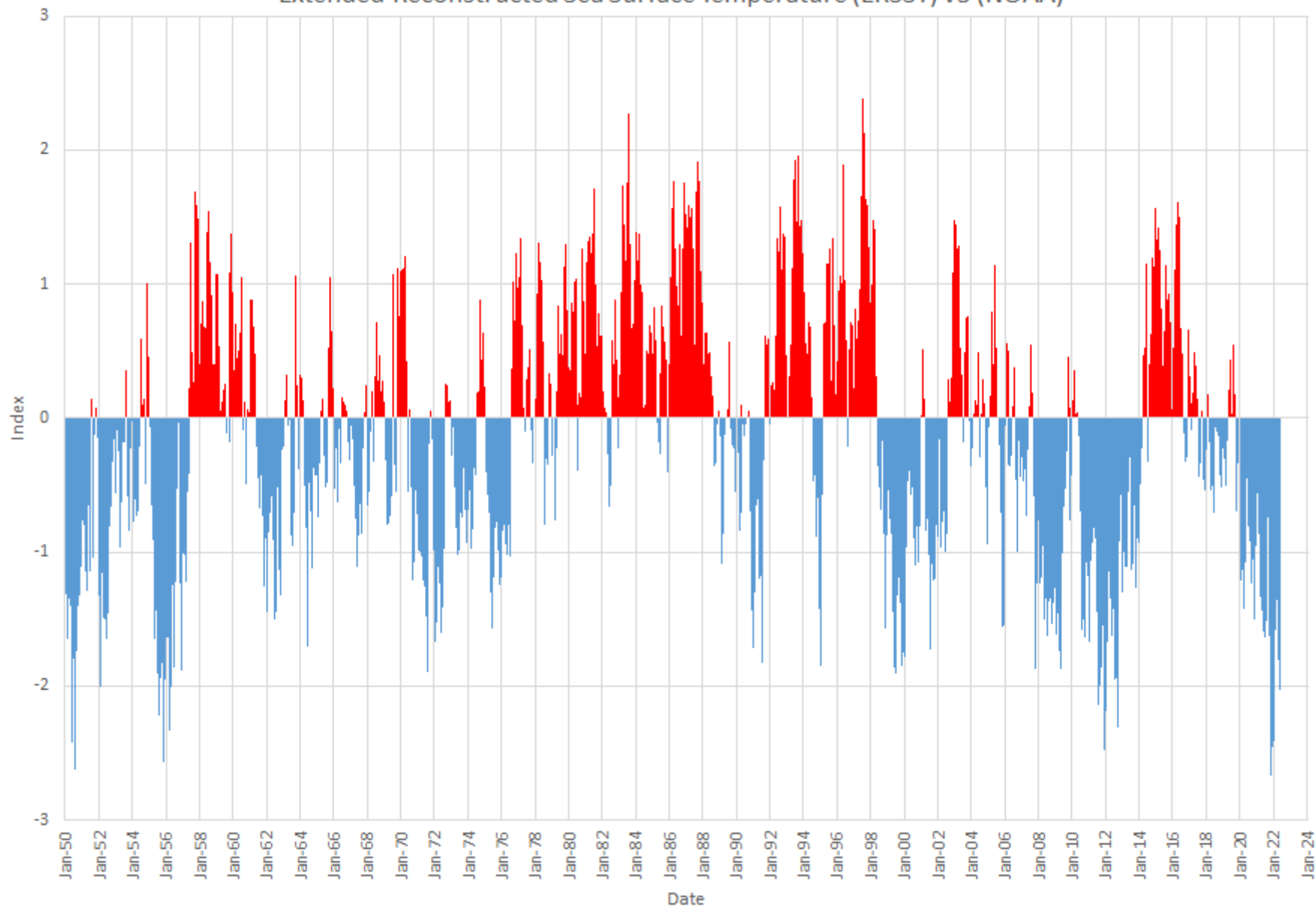
## MEI.v2 Evolution of Current ENSO Event in Historical Context



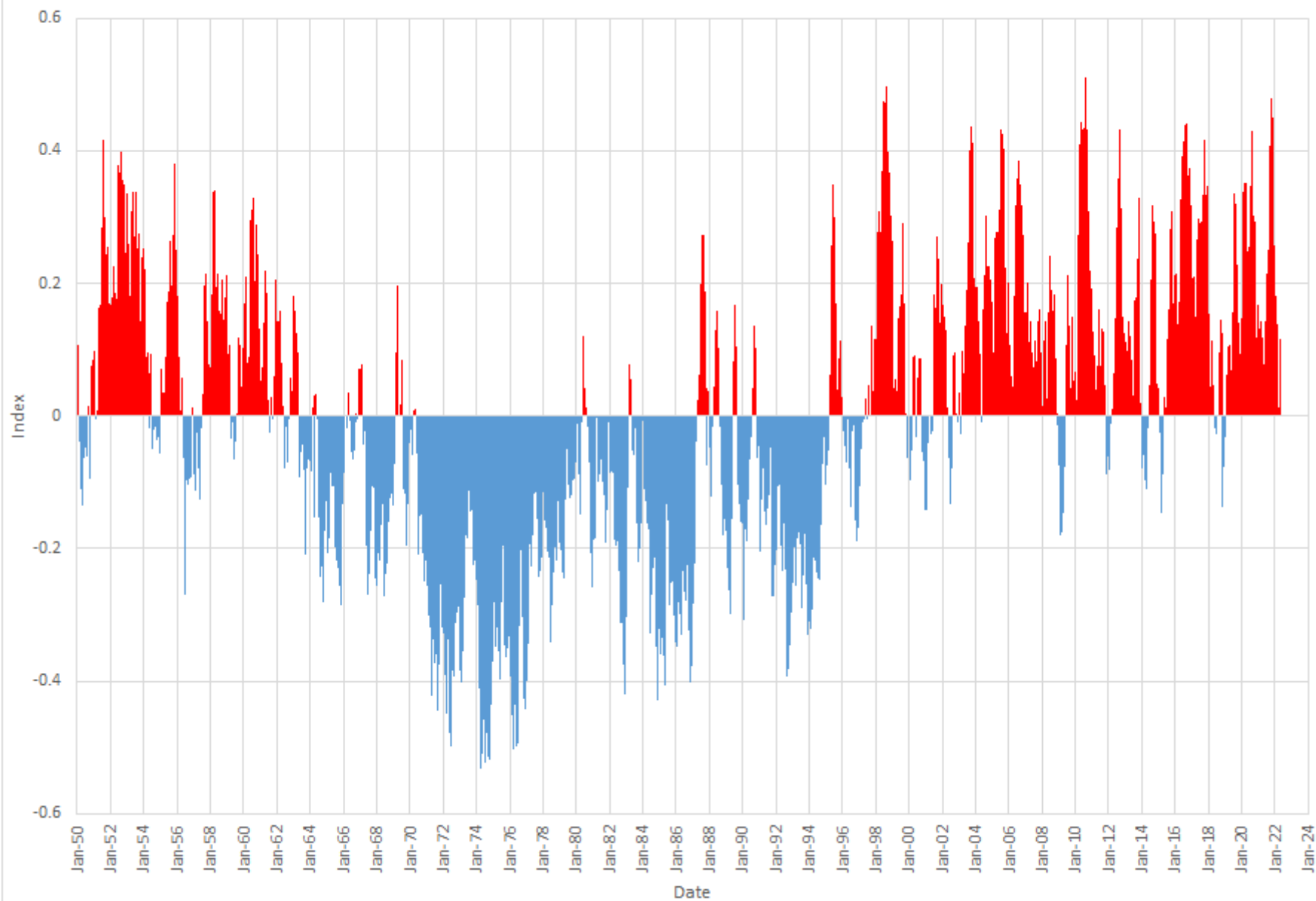


# Pacific Decadal Oscillation

## Extended Reconstructed Sea Surface Temperature (ERSST) v5 (NOAA)



Index of the North Atlantic Temperatures (AMO) from Kaplan Extended SST V2 (NOAA)

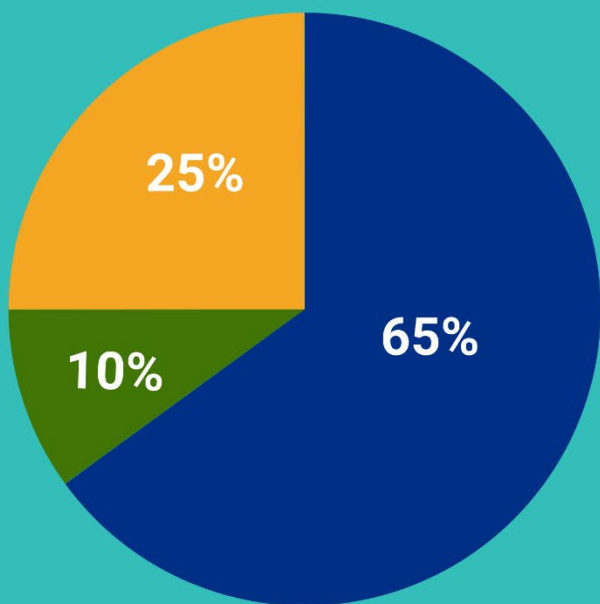


# 2022 Tropical Outlook





# 2022 Atlantic Hurricane Season Outlook



■ Above-normal ■ Near-normal ■ Below-normal season

Season probability

Named storms  
14-21

Hurricanes  
6-10

Major hurricanes  
3-6

## ATLANTIC BASIN SEASONAL HURRICANE FORECAST FOR 2022

Forecast Parameter and 1991–2020 Average (in parentheses)	Issue Date 7 April 2022	Issue Date 2 June 2022
Named Storms (14.4)	19	20
Named Storm Days (69.4)	90	95
Hurricanes (7.2)	9	10
Hurricane Days (27.0)	35	40
Major Hurricanes (3.2)	4	5
Major Hurricane Days (7.4)	9	11
Accumulated Cyclone Energy Index (123)	160	180
Net Tropical Cyclone Activity (135%)	170	195

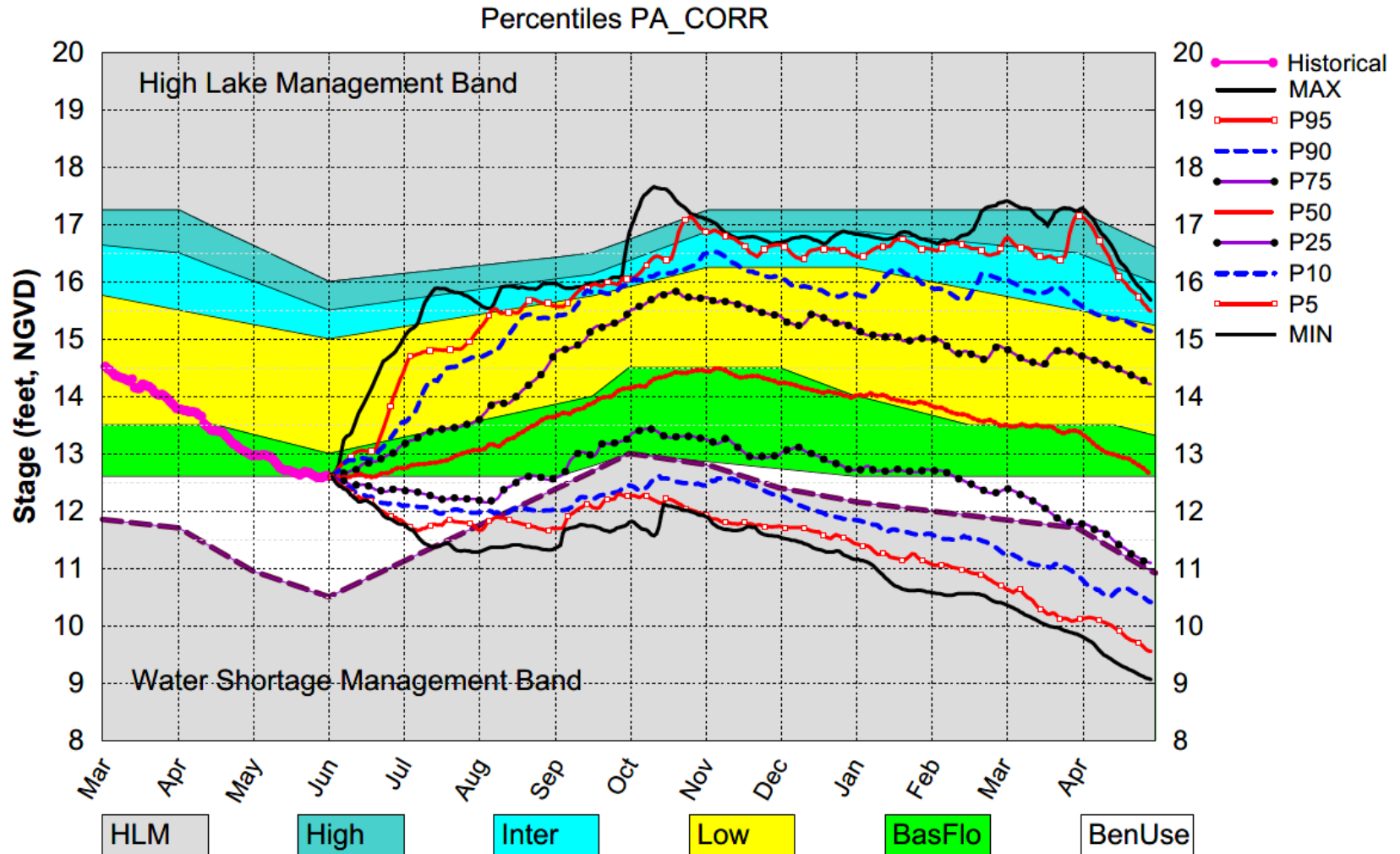
- Anticipate above-average activity
- No significant El Niño forecasted
- Sea surface temperatures averaged across portions of the tropical Atlantic are above normal, while most of the subtropical and mid-latitude eastern North Atlantic is much warmer than normal.

# June DPA Assumptions

- The June 1, 2022 Dynamic Position Analysis (DPA) simulation is based on historical climatic conditions spanning the period 1965-2005. This DPA posting is made with the South Florida Water Management Model (SFWMM) v6.7.4 (Tamiami Trail) which includes the following improvement(s):
  - Improvements to include the Combined Operational Plan (COP)
- The June 1, 2022 DPA resets the initial stages for Lake Okeechobee (LOK) and the Water Conservation Areas (WCAs) on May 1<sup>st</sup> of each year of the DPA simulation and conditions the simulation to real time data during April to achieve real time stages on June 1<sup>st</sup> for LOK and WCAs.
- The Lake Okeechobee operations follow the Lake Okeechobee Regulation Schedule (LORS2008). Modeling assumptions are consistent with modeling performed for LORS2008 Supplemental Environmental Impact Statement (SEIS).
- LOK Temporary Forward Pump operations will be in place, whenever necessary, to improve water supply deliveries from LOK under low LOK stages.
- STA surface area values are modified to reflect current flowways under operation. STA depths are maintained to a minimum of 6 inches using Lake Okeechobee releases.

## PRELIMINARY RESULTS

### Lake Okeechobee SFWMM June 2022 Position Analysis

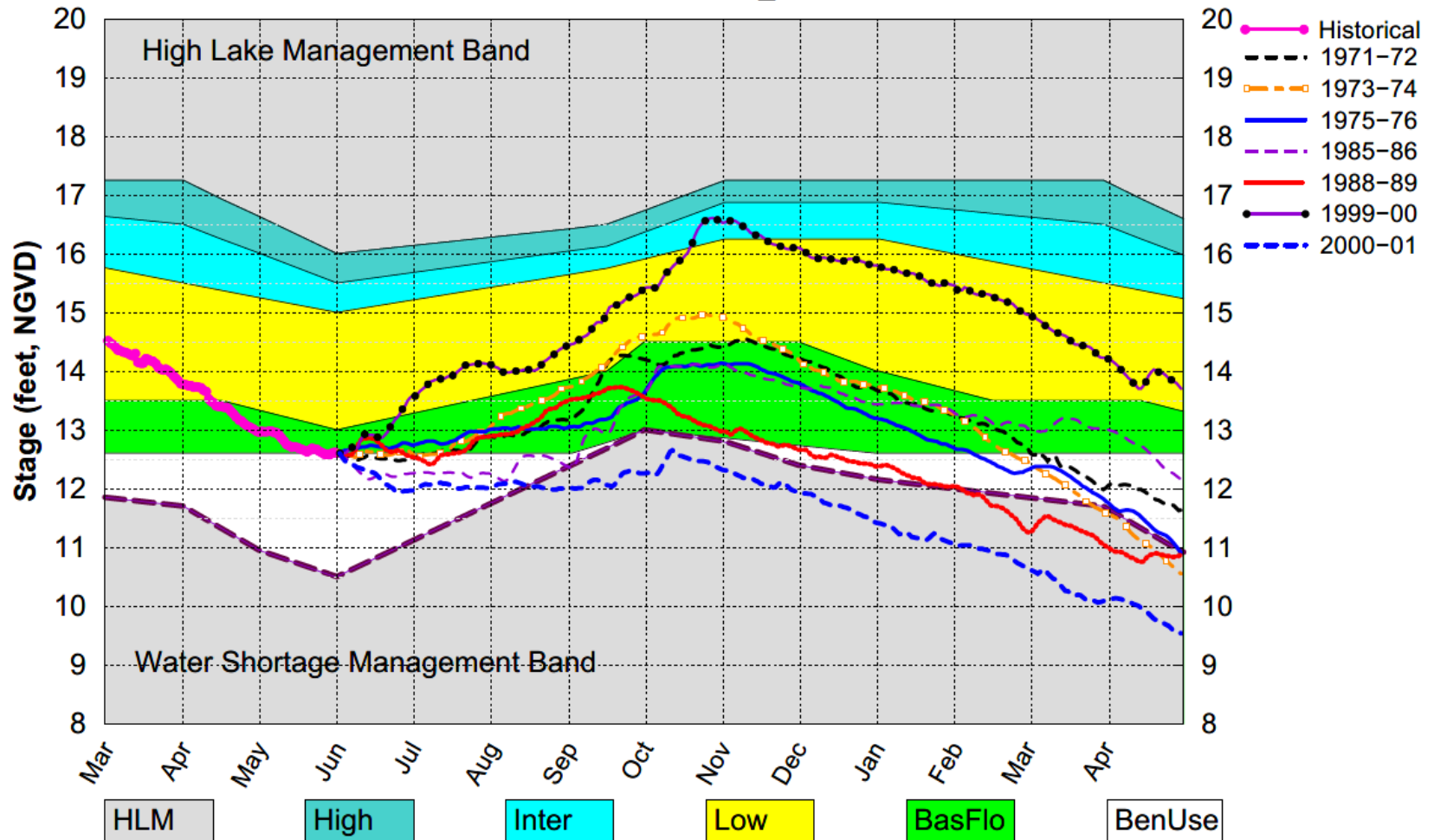


(See assumptions on the Position Analysis Results website)



## Lake Okeechobee SFWMM June 2022 Position Analysis

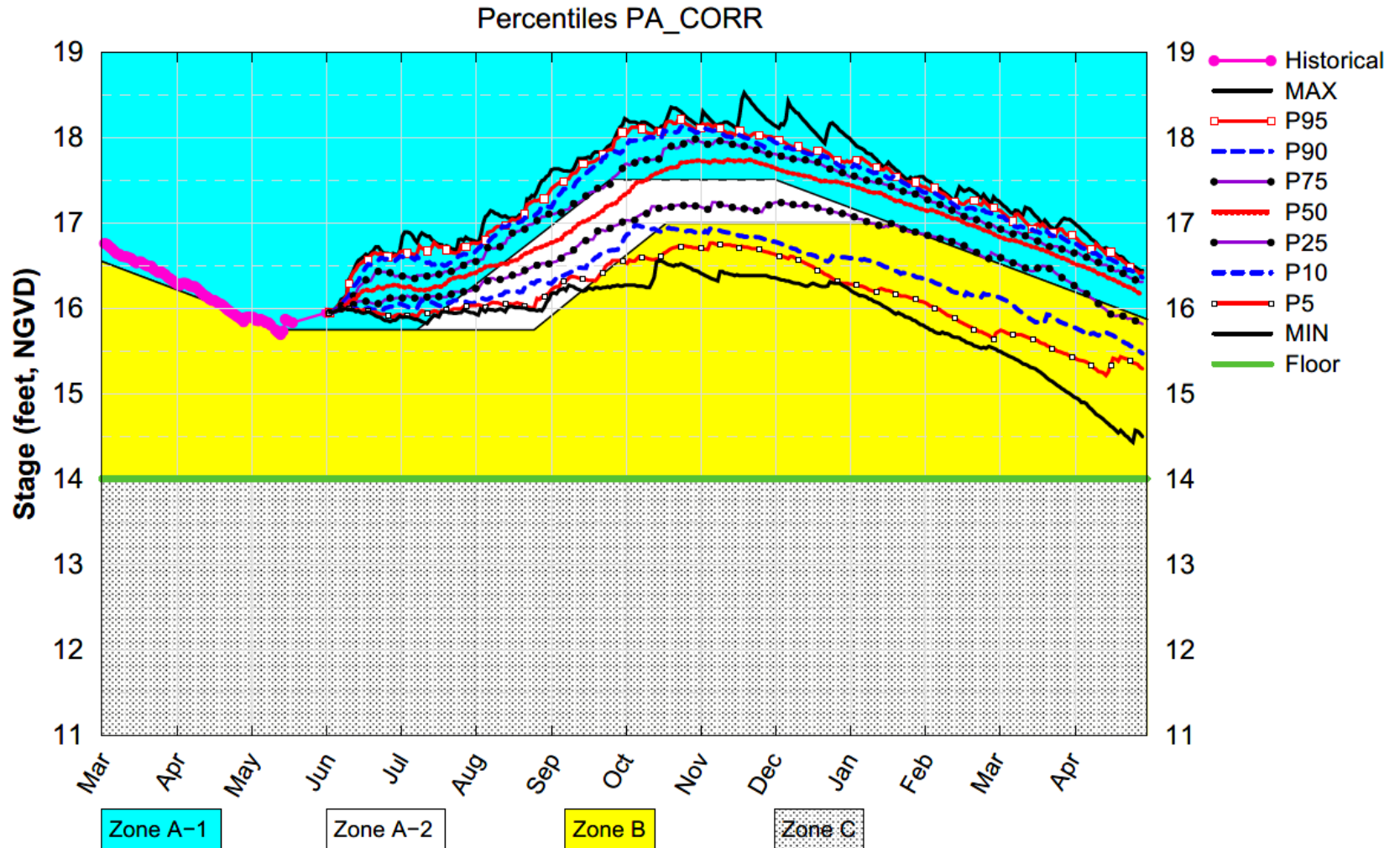
All La Nina Years Plot PA\_CORR



(See assumptions on the Position Analysis Results website)

## PRELIMINARY RESULTS

### WCA1 SFWMM June 2022 Position Analysis

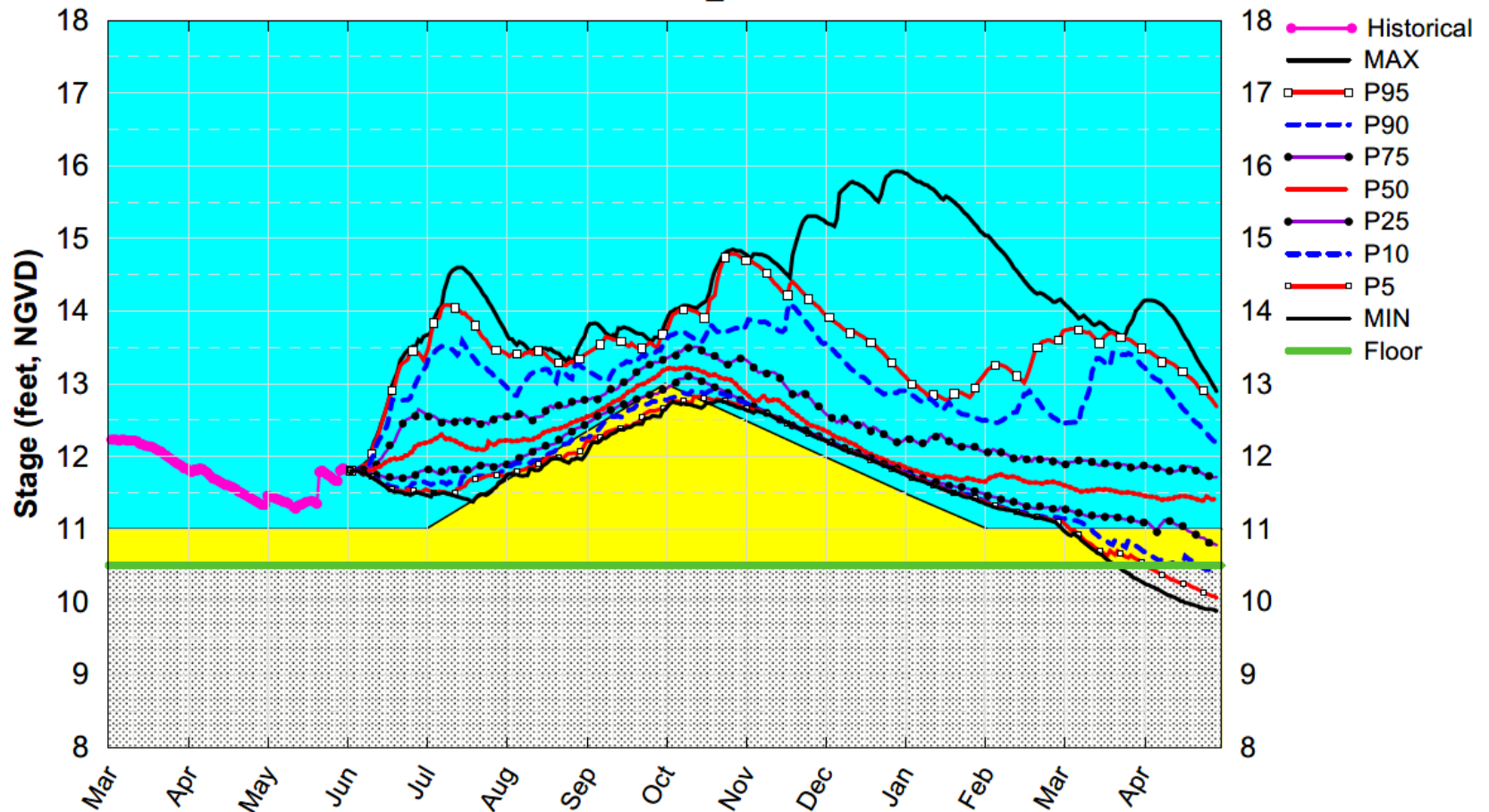


(See assumptions on the Position Analysis Results website)

## PRELIMINARY RESULTS

### WCA2A SFWMM June 2022 Position Analysis

Percentiles PA\_CORR

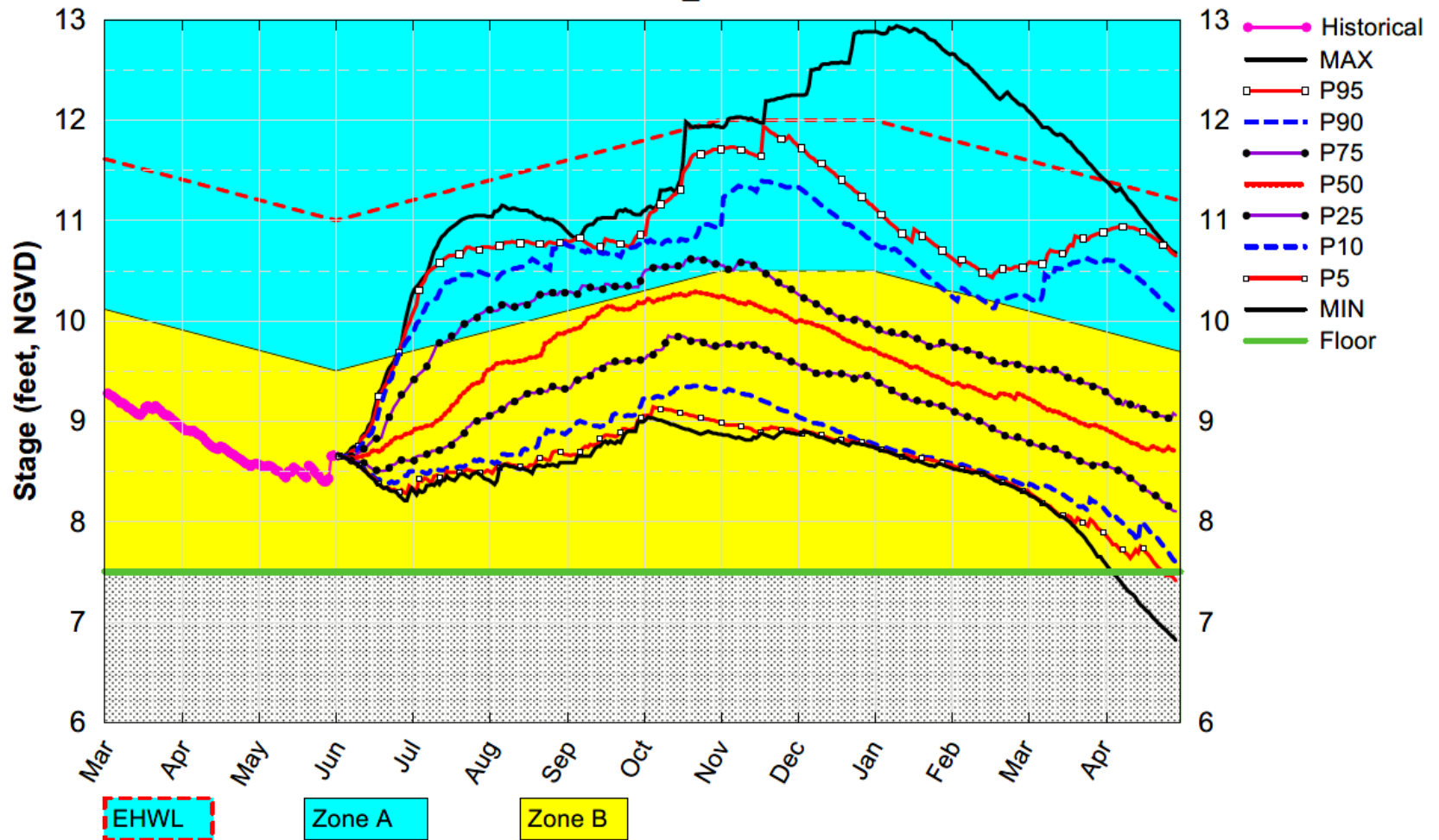


(See assumptions on the Position Analysis Results website)

## PRELIMINARY RESULTS

### WCA3A SFWMM June 2022 Position Analysis

Percentiles PA\_CORR



(See assumptions on the Position Analysis Results website)